

(b)(1)
(b)(2)

analyzes the API message and interacts with the knowledge base 286 to determine the target logical connection ID for the API message. After the target logical connection ID is located, it is sent with the API message to the processor 302. The processor 302 passes the API message to the business processors therein, which in turn process the message to ensure the API message protocol is compatible with that used by the destination host computer. The processed API message is then passed to the postprocessor 304 with the target logical connection ID. The postprocessor uses the target logical connection ID as a key to search the knowledge base 286 for wrapping information. In this case, since the destination is a host computer, no wrapping is required. The postprocessor 304 in turn uses the target logical connection ID to find the destination virtual device, in this case the virtual terminal 282, and passes the API message to it. The virtual terminal 282 in turn passes the API message to the destination host computer over the land-line network 122.

IN THE CLAIMS:

Please cancel claims 6, 14, 15 and 17 without prejudice or disclaimer.

Please amend claims 1 to 3, 5, 7 to 11, 16 and 18 as follows:

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1. (Amended) A communication system comprising:

at least two communication networks over which communications between physical devices connected to said communication networks are to be carried, said communication networks implementing different protocols for messaging; and

a communication server acting between said communication networks and through which messages transmitted between said communication networks pass, said communication server including a knowledge base storing protocol conversion information, said communication server accessing said knowledge base upon receipt of a message, said communication server accessing said knowledge base upon receipt of a message and searching said knowledge base for appropriate protocol conversion information using a header accompanying said message or the message itself as a key to searching converting the protocol thereof to a protocol compatible with the communication network to which said message is being sent.

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2. (Amended) A communication system as defined in claim 1 wherein said communication server includes virtual devices communicating with said communication networks and a virtual gateway bridging said virtual devices, said virtual gateway accessing said knowledge base and converting protocols of said messages.

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3. (Amended) A communication system as defined in claim 2 wherein said virtual gateway includes a preprocessor, a processor and a postprocessor, said preprocessor examining each incoming message and/or accompanying header if it exists to locate target logical connection information determining the target destination for said incoming message, said processor converting the protocol of each incoming message, if required for transmission to the communication network to which said message is being sent based on said target logical connection information, said postprocessor wrapping each message received from said processor with headers, where appropriate.

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5. (Amended) A communication system as defined in claim 4 wherein messages transmitted over said wireless network, include API messages to be processed by destination physical devices and logical message headers including target logical connection information specifying the destinations for said API messages that wrap said API messages.

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7. (Amended) A communication system as defined in claim 5 wherein said preprocessor strips the logical message header from said API message upon receipt of a message from said wireless network and uses the target logical connection information in said logical message header as a key to search said knowledge base for said protocol conversion information.

8. (Amended) A communication system as defined in claim 7 wherein said preprocessor analyzes the API message of a message received from said wireless network for said target logical connection information if said target logical connection information cannot be determined from said logical message header and uses the target connection information in said API message as said key.

9. (Amended) A communication system as defined in claim 4 wherein messages transmitted over said land-line network are in the form of API messages, said preprocessor analyzing the API message of a message received from said land-line network for said target logical connection information and using the target connection information in said API message as a key to search said knowledge base for said protocol conversion information.

10. (Amended) A communication server acting as a gateway for the transmission of messages between two virtual devices communicating with networks implementing different protocols, said communication server comprising:

a knowledge base storing protocol conversion information to convert messages of one protocol to a different protocol; and

a virtual gateway accessing said protocol conversion information upon receipt of a message to be transmitted between said virtual devices and converting the protocol of said message to a protocol compatible with the network to which said message is being sent, said communication server accessing said knowledge base upon receipt of a message and searching said knowledge base for appropriate protocol conversion information using a header accompanying said message or the message itself as a key to searching.

11. (Amended) A communication server as defined in claim 10 wherein said virtual gateway includes a preprocessor, a processor and a postprocessor, said preprocessor examining each incoming message and/or accompanying header if it exists to locate target logical connection information determining the target destination for said incoming message, said processor converting the protocol of each incoming message, where appropriate, based on said target logical connection information, said postprocessor wrapping each message received from said processor with headers, where appropriate.

16. (Amended) A communication system comprising:

a wireless network;

at least one wireless terminal to transmit messages over said wireless network;

a land-line network;

at least one host computer connected to said land-line network to transmit messages over said land-line network; and

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a communication server providing communications connectivity for messages to be transmitted from one network to the other, wherein said at least one wireless terminal and said communication server include registries, said registries including mapping information to map physically said at least one wireless terminal to said land-line network to enable messages transmitted by said at least one wireless terminal to be delivered to said at least one host computer, wherein the registry in said at least one wireless terminal maps drivers and ports of said wireless terminal to ports of said communication server.

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18. (Amended) A communication system as defined in claim 16 wherein the registry in said communication server maps logical connections between said wireless and land-line networks.

Please add new claims 20 to 31 as follows:

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20. (New) A communication system as defined in claim 8 wherein messages transmitted over said land-line network are in the form of API messages, said preprocessor analyzing the API message of a message received from said land-line network for said target logical connection information and using the target logical connection information in said API message as said key.

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21. (New) A communication server as defined in claim 11 wherein said messages include API messages and optionally logical message headers, said API messages and logical message headers including target logical connection information specifying the destinations for said messages.

22. (New) A communication server as defined in claim 21 wherein said preprocessor strips the logical message header from said API message upon receipt of a message including a logical message header and uses the target logical connection information in the logical

message header as a key to search said knowledge base for said protocol conversion information.

23. (New) A communication server as defined in claim 22 wherein said preprocessor analyzes the API message for the target logical connection information if the target logical connection information cannot be determined from the logical message header and uses the target logical connection information in the API message as said key.

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24. (New) A communication server as defined in claim 23 wherein said preprocessor analyzes the API message for target logical connection information if the message does not include a logical message header and uses the target logical connection information in the API message as said key.

25. (New) A communication server acting as a gateway for the transmission of messages between two virtual devices communicating with networks implementing different protocols, said communication server comprising:

a knowledge base storing protocol conversion information to convert messages of one protocol to a different protocol;

a virtual gateway accessing said protocol conversion information upon receipt of a message to be transmitted between said virtual devices and converting the protocol of said message to a protocol compatible with the network to which said message is being sent; and

a tool kit to set up said knowledge base with said protocol conversion information.

26. (New) A communication server as defined in claim 25 wherein said virtual gateway updates said protocol conversion information based on message traffic therethrough.

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27. (New) A communication server as defined in claim 26 wherein one of said networks is a wireless network and wherein another of said networks is a wired land-line network.

28. (New) A communication server as defined in claim 27 wherein said virtual gateway unwraps headers accompanying incoming messages and uses target logical connection information in the headers as keys to search said knowledge base for said protocol conversion information.

29. (New) A communication server as defined in claim 28 wherein said virtual gateway analyzes incoming messages for target logical connection information if the target logical connection information cannot be determined from the headers.

30. (New) A communication server acting as a gateway for the transmission of messages between two virtual devices communicating with networks implementing different protocols, said communication server comprising:

a knowledge base storing protocol conversion information to convert messages of one protocol to a different protocol; and

a virtual gateway accessing said knowledge base upon receipt of a message and searching said knowledge base for appropriate protocol conversion information using target logical connection information in headers accompanying incoming messages if they exist as keys to search said knowledge base.

31. (New) A communication server as defined in claim 30 wherein said virtual gateway analyzes messages for the target logical connection information if the target logical connection information cannot be determined from the headers.

REMARKS

The title of the invention has been amended as requested by the Examiner. An amended Figure 5 is being submitted concurrently herewith under separate cover to deal with the Examiner's formal objections to the disclosure.

The disclosure has been amended to correct typographical errors noted by the Applicants. No new matter has been introduced.

Claims 1 to 3, 5, 7 to 11, 16 and 18 have been amended to define clearly the Applicants' invention and are believed to distinguish patentably over the prior art. Claims 6,